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Land Use and Urban Development Project
**STUDY OF EMPLOYERS'
LOCATIONAL DECISIONS**

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The BART Impact Program is a comprehensive, policy-oriented study and evaluation of the impacts of the San Francisco Bay Area's new rapid transit system (BART).

The program is being conducted by the Metropolitan Transportation Commission, a nine-county regional agency established by state law in 1970.

The program is financed by the U. S. Department of Transportation, the U. S. Department of Housing and Urban Development, and the California Department of Transportation. Management of the Federally funded portion of the program is vested in the U. S. Department of Transportation.

The BART Impact Program covers the entire range of potential rapid transit impacts, including impacts on traffic flow, travel behavior, land use and urban development, the environment, the regional economy, social institutions and life styles, and public policy. The incidence of these impacts on population groups, local areas, and economic sectors will be measured and analyzed. Finally, the findings will be interpreted with regard to their implications for the planning of transportation and urban development in the Bay Area and other metropolitan areas.

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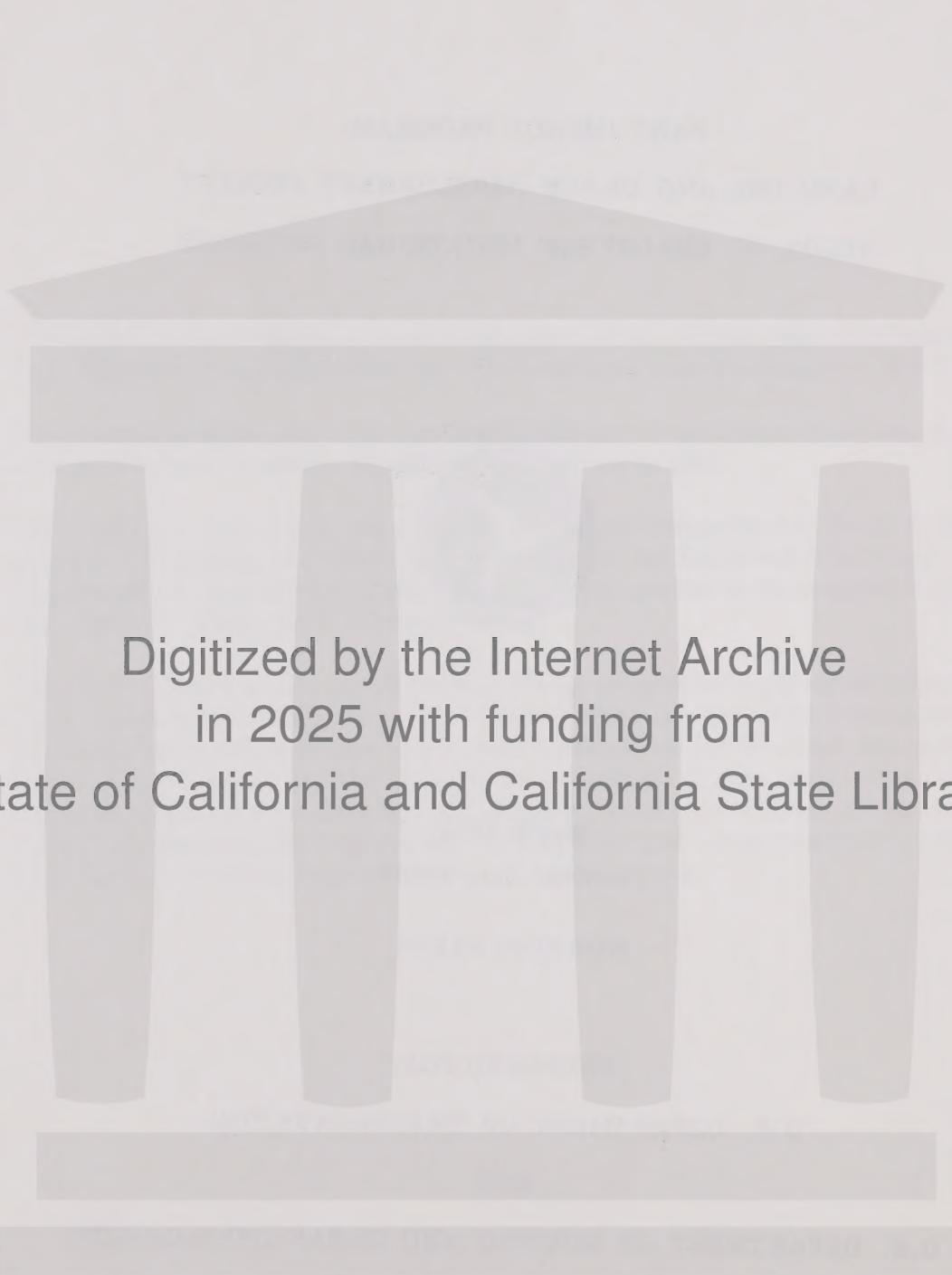
BART IMPACT PROGRAM
LAND USE AND URBAN DEVELOPMENT PROJECT
STUDY OF EMPLOYERS' LOCATIONAL DECISIONS



March 1978
(Revised July 1978)

WORKING PAPER

PREPARED FOR
U.S. DEPARTMENT OF TRANSPORTATION
AND
U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT



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PREPARED BY JOHN BLAYNEY ASSOCIATES/DAVID M. DORNBUSCH & CO., INC.
A JOINT VENTURE

UNDER CONTRACT WITH THE METROPOLITAN TRANSPORTATION COMMISSION
FOR THE U.S. DEPARTMENT OF TRANSPORTATION
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SAN FRANCISCO BAY REGION
CENTRAL AREA

BART: The Bay Area Rapid Transit System

Length: The 71-mile system includes 20 miles of subway, 24 miles on elevated structures and 27 miles at ground level. The subway sections are in San Francisco, Berkeley, downtown Oakland, the Berkeley Hills Tunnel and the Transbay Tube.

Stations: The 34 stations include 13 elevated, 14 subway and 7 at ground level. They are spaced at an average distance of 2.1 miles: stations in the downtowns are less than one-half mile apart while those in suburban areas are two to four miles apart. Parking lots at 23 stations have a total of 20,200 spaces. There is a fee (25 cents) at only one of the parking lots. BART and local agencies provide bus service to all stations.

Trains: Trains are from 3 to 10 cars long. Each car is 70 feet long and has 72 seats. Top speed in normal operations is 70 mph with an average speed of 36 mph including station stops. All trains stop at all stations on the route.

Automation: Trains are automatically controlled by the central computer at BART headquarters. A train operator on board each train can override automatic controls in an emergency.

Magnetically encoded tickets with values up to \$20 are issued by vending machines. Automated fare gates at each station compute the appropriate fare and deduct it from the ticket value. At least one agent is present at each station to assist patrons.

Fares: Fares range from 25 cents to \$1.45, depending upon trip length. Discount fares are available to the physically handicapped, children 12 and under, and persons 65 and over.

Service: BART serves the counties of Alameda, Contra Costa and San Francisco, which have a combined population of 2.4 million. The system was opened in five stages, from September, 1972, to September, 1974. The last section to open was the Transbay Tube linking Oakland and the East Bay with San Francisco and the West Bay.

Routes are identified by the terminal stations: Daly City in the West Bay, Richmond, Concord and Fremont in the East Bay. Trains operate from 6:00 a.m. to midnight on weekdays, every 12 minutes during the daytime on three routes: Concord-Daly City, Fremont-Daly City, Richmond-Fremont. This results in 6-minute train frequencies in San Francisco, downtown Oakland and the Fremont line where routes converge. In the evening, trains are dispatched every 20 minutes on only the Richmond-Fremont and Concord-Daly City routes. Service is provided on Saturdays from 9 a.m. to midnight at 15-minute intervals. Future service will include a Richmond-Daly City route and Sunday service. Trains will operate every six minutes on all routes during the peak periods of travel.

Patronage: Approximately 142,000 one-way trips are made each day. Approximately 200,000 daily one-way trips are anticipated under full service conditions.

Cost: BART construction and equipment cost \$1.6 billion, financed primarily from local funds: \$942 million from bonds being repaid by the property and sales taxes in three counties, \$176 million from toll revenues of transbay bridges, \$315 million from federal grants and \$186 million from interest earnings and other sources.

March 1978

PREFACE

The BART Impact Program (BIP) is a comprehensive policy-oriented effort to identify, describe, measure, and present findings as accurately as possible about the multi-faceted impacts of a major public transportation investment—the BART system. The major objective of the Land Use and Urban Development Project is to determine how and to what extent BART has influenced the spatial arrangements of people and activities within the San Francisco Bay Area. To accomplish this task, the project will focus on the way BART has influenced (1) location decision processes; (2) actual movement behavior that results from those decisions and other market forces; and (3) the form, character, and functioning of aggregate spatial groupings that represent the net outcome of those decisions and movement patterns. Changes attributable to BART will be measured against pre-BART and no-BART alternatives. In all of these studies BART's effects on individual socio-economic groups, particularly minorities and the disadvantaged, will receive careful attention.

The Land Use and Urban Development Project is one of six major projects comprising the BART Impact Program. The others are:

- Economics and Finance Project (E&F)
- Environment Project (Env)
- Institutions and Lifestyle Project (ILS)
- Public Policy Project (PP)
- Transportation System and Travel Behavior Project (TSTB)

Each of these projects is designed to investigate specific aspects of BART's impacts, to explain why the impacts occur, and to identify who is affected by the impacts and the distributional effects. The projects then will demonstrate how the information derived can be used by decision-makers to enhance the benefits and to reduce the dis-benefits of BART and to increase understanding of the potential impacts of rail rapid transit investments in the Bay Area and other American metropolitan areas.

This working paper presents the analysis and findings of the study of BART's impact on employers' locational decisions—one aspect of BART's impacts on land use and urban development. The paper is presented for review by BART Impact Program staff, federal sponsors, and other interested planners and researchers.

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SUMMARY AND FINDINGS

OBJECTIVE

This study's objective is to evaluate how and to what extent BART has affected employers' location decisions within the three-county area served by BART (San Francisco, Alameda, and Contra Costa Counties). Specifically addressed are BART's direct and indirect effects on location decisions, BART's influence on centralization or decentralization of employer locations, and the extent to which firms have located near BART to gain visual exposure to the traveling public.

METHOD

The study principally relied on interviews with individuals who participated in or were familiar with firms' location decisions. Thirty-five informants were interviewed specifically for this study. Information was also obtained from interviews conducted in other BART Impact Program studies.

FINDINGS

HYPOTHESIS 1: **Decisions to locate business firms, government agencies, and other institutions were influenced by BART's expected or perceived improved service and accessibility to labor force, clientele, and other organizations.**

BART has had no important effect on the location decisions of firms seeking either better access to the labor force or better access to other firms. Firms desiring good access to the labor force generally do not rank this factor very highly once some minimum level of access is obtained. The exceptions fall into three categories: those firms which seek access to some particular labor force, those which are relocating and wish to minimize the disruption of the relocation, and those which have made a policy decision to provide good access because so many employees rely on public transportation. Seven of the twenty firms to which access was an important consideration reported that BART did influence their choice of location, but that its influence was not great.

We found no evidence that firms' responses to BART varied according to the size of the firm. Very large firms which operate several shifts per day could not rely on BART for improved access to their nightshift workers even if the firm had wanted to gain improved access. We also found no difference in the BART effect according to the firm's proportion of minority employees. We did find, however, a greater BART effect on location decisions among government agencies than among private firms.

Several firms indicated that access to other firms was a major factor in their choice of location. The more important this factor, however, the more likely it was that these firms chose to locate within walking distance of the other busi-

nesses, and, consequently, the less significant BART was found to be. Ten other firms were identified which located at greater than walking distance from businesses their employees needed to visit, and in these cases BART was occasionally used for inter-firm travel. BART was not used as frequently as it might have been because employees found it unreliable and less convenient than alternative modes serving certain origins and destinations.

HYPOTHESIS 2: The location decision-makers recognized that BART might induce households and organizations to relocate, and anticipated the pattern of such relocation in selecting their own establishment locations.

We found no firm which moved to an area in anticipation of a BART-induced growth in households in order to gain access to the expanding labor force. We identified one group of firms which attempts to anticipate new patterns of development as one factor in their location decisions: banks and savings and loans. These companies try to forecast household and business growth in the areas under consideration for a new branch, and are very much aware that BART might augment an area's growth rate. So far, however, no bank or savings and loan interviewed has noted a BART effect on an area's growth, and none contacted has located a new branch in anticipation of such growth.

HYPOTHESIS 3: BART influenced firms specializing in non-consumer goods and services to locate away from (in) central business districts.

The business relocations examined and the key informants themselves both indicate that BART is not now having a significant effect on either centralization or decentralization. Most firms moving to or away from the central cities do so for reasons unrelated to BART. The Social Security Administration's relocation from San Francisco to Richmond offers a single exception. That organization reportedly would not have moved to Richmond had BART not been available to provide transportation to the new location for its employees residing in San Francisco.

An effect subtler than inducing firms to leave one city for another is BART's encouragement of central city firms to remain in the central cities. We identified four firms which were influenced to some extent by BART in their decisions to remain in Oakland (3) and San Francisco (1). This effect on centralization appears to be worthy of continued monitoring.

HYPOTHESIS 4: Business firms were attracted to the areas near BART's surface and elevated tracks because of visual exposure to the traveling public.

A field survey and follow-up interviews indicated no non-consumer oriented firms which had located near BART in order to gain exposure to BART passengers. Three isolated retail and service firms were identified which appeared to have responded to BART's proximity by orienting their buildings towards BART or by erecting large signs facing BART. In fact, only one (Walnut Creek's Cost Plus Import Store) reported that BART was an important factor in its choice

of a location across the street from the BART station. The other two firms denied that BART had any effect on their decision to locate where they did.

1. INTRODUCTION

BART began limited service in 1972, and in 1974 opened its trans-Bay tunnel, linking downtown San Francisco with downtown Oakland and suburbs in several directions. The greater accessibility which BART afforded workers, both for commuting and for traveling during the business day, was expected by many to have a significant impact on business' locational decisions. It was expected that new businesses would take advantage of the increased access which BART provided to their workforce and to other firms by locating near BART stations. Some expected BART to revitalize the traditional employment centers of San Francisco and Oakland, while others thought BART might induce decentralization. Because of BART's primary effect on household and business location decisions, many expected a secondary effect from firms anticipating new locational patterns and locating their businesses where the new growth was expected to occur. Concerns were expressed about BART's differential effects on the locational decisions of small businesses, minority-owned firms, and government institutions.

In this working paper we have addressed these issues by conducting and analyzing interviews of those who evaluate BART's effects on their businesses, and who decide how to respond to BART.

2. RESEARCH QUESTIONS AND STUDY ISSUES

A. OBJECTIVES

The focus of this study was to determine what effect BART has had on employers' location decisions. The study addresses four aspects of that general issue: BART's direct effects on location decisions, BART's indirect effects, the question of whether BART is encouraging centralization or decentralization, and whether firms consider visibility from BART important enough to attract them to a BART location.

BART'S DIRECT EFFECTS ON LOCATION DECISIONS

In certain areas, BART provided an increase in accessibility, which in turn might serve as an attraction to firms which value their access to the labor force and/or to other firms. Therefore, firms might find sites near BART marginally more attractive because of BART; and if sites near BART are in other respects equally attractive as alternative sites, then a firm looking for a new location should favor the BART site. The relative attractiveness of a site near BART may differ for various types of firms. This study examined firms which valued access to employees and firms wanting access to other firms. Stated in hypothesis form the study issue is:

- Decisions to locate business firms, government agencies, and other institutions were influenced by BART's expected or perceived improved service and accessibility to labor force, clientele, and other organizations.

Decisions by many firms were analyzed in this study in order to detect differing responses to BART according to firm types and sizes, to whether they are government agencies or private firms, and to whether they are minority or predominantly white organizations.

BART'S INDIRECT EFFECTS ON LOCATIONAL DECISIONS

The increase in accessibility that BART provides in certain areas may, as described above, directly induce firms to locate in those areas. Other firms may, however, be drawn to the BART-served areas in order to locate near the firms and households which were attracted by BART. The firms indirectly attracted by BART can be divided into two groups: those which seek to locate near their workforce and would therefore be drawn by the increased number of households, and those for which households and other firms are customers and would be drawn to areas where economic activity was increasing. BART's indirect effect is stated in the following hypothesis:

- The location decision-makers recognized that BART might induce households and organizations to relocate, and anticipated the pattern of such relocation in selecting their own establishment locations.

BART'S EFFECTS ON CENTRALIZATION OR DECENTRALIZATION OF EMPLOYER'S LOCATIONS

Firms and institutions weigh many factors in deciding where to locate within an urban area. Of these factors, several favor a central city location while others a suburban location. The issue analyzed in this study is the extent to which BART affects both sets of factors and how firms alter their location decisions in response to BART.

Factors encouraging a central city location include prestige, access to other firms, and access to employees through numerous commute options. It was recognized that BART might have affected the last two factors, altering the relative attractiveness to the central cities. By increasing accessibility from suburban locations to the downtowns of San Francisco and Oakland, BART might make it less compelling for firms to locate in the downtowns in order to gain accessibility to other firms. Similarly, by providing an alternative transit system, BART might weaken the force of old commute patterns and allow firms to locate in new areas while retaining good access to employees.

Other factors promoting decentralization include lower land costs, attractive surroundings, availability of large sites, and proximity to the labor force. BART allows a firm desiring proximity to its workforce to locate further away from that workforce and still retain good access. In sum, BART has given employers more freedom to locate wherever they wish. If a firm desired to move to the suburbs but did not do so previously because of poor access to other firms in the central cities, BART now might provide adequate service to the downtowns to allow that firm to locate in the suburbs. In contrast, if a firm wanted to relocate (or remain) in the traditional downtown area but could not because of poor or declining access to its workforce, then the improved access provided by BART might allow that firm to move to (or remain in) the downtown.

BART's postulated effect on centralization or decentralization is stated in the following hypothesis:

- BART influenced firms specializing in non-consumer goods and services to locate away from (in) central business districts.

A variety of firms were examined in this study to determine whether the centralization/decentralization effects of BART differ according to firm type, size, or government versus private ownership.

BART'S ATTRACTION TO FIRMS SEEKING ENHANCED PUBLIC EXPOSURE

Companies selling goods or services to the public value visual exposure. Some non-consumer oriented firms also value exposure. A well-known example in San Francisco is Transamerica Corporation with their headquarters offices in the Transamerica pyramid—a building which is featured in much of the firm's publicity. Because BART carries thousands of passengers daily along its fixed line, it offers firms desiring public exposure an opportunity to locate in a place where they might increase their visibility. This phenomenon is stated in the hypothesis:

- Business firms were attracted to the areas near BART's surface and elevated tracks because of exposure to the traveling public.

B. APPROACH

BART's effects on employers' location decisions throughout the BART service area were investigated by interviewing a variety of individuals who participated in or were familiar with specific firm location decisions. This study relied on three primary sources of interview data. First, we conducted thirty-five interviews specifically to address the issues in this study. Second, the Economics and Finance Project of the BART Impact Program provided notes from interviews done for their analysis of the Impacts of Transportation Service on Employment and Commerce. Third, interviews were available from the Study of the Office Construction Industry, performed for the Land Use and Urban Development Project of the BART Impact Program.

After reviewing the interviews available from the other two studies, we selected informants and conducted interviews to fill in data gaps and to focus more specifically on the particular issues in this study. Informants were selected on the basis of the following criteria:

1. The informant should be a participant in a recent or a proposed location or relocation decision.
2. The informants should represent a variety of firm sizes and types, including those seeking access to their labor force and those desiring access to other firms.
3. The informants should be from a variety of cities within the three-county BART service area.
4. Some informants should provide a minority perspective on the study issues.
5. The informants should be from firms which might have located near BART to obtain exposure to BART passengers.

In order to identify firms which might have located near BART to obtain visual exposures to BART passengers, field surveys were conducted from BART trains. Businesses which appeared to be oriented towards BART were listed. These businesses were found on land use maps and those buildings which had been built since 1965, when BART planning was well underway, were identified. All firms which moved since 1965 and which appeared to be oriented toward BART were contacted and interviewed.

In all, the study's findings are based on 71 interviews. While the informants were not randomly selected, they were chosen in an effort to portray typical actions of major employers. More than half the employers selected were major corporations, utilities, department store chains, financial institutions or government agencies. The other informants shed light on the location decisions of moderate to small-sized firms.

Informants interviewed for this study are listed in **Appendix A**. The interviews conducted in the course of this study pursued three lines of questioning: what were the key elements in the location decision and how did BART affect that decision? how has BART affected the operation of the business? and how extensively do employees use BART, both for commuting and for local business travel? The specific questions are listed in **Appendix B**.

The interviews conducted in the Economics and Finance Project focused on the issue of whether BART has improved the operating efficiency of firms with BART access. Many of the interviews also queried the informants about BART's role in the firm's location decisions, and were therefore directly applicable to this study. The interviews drawn upon for this study are listed in **Appendix C**.

The broad issue under investigation in the Study of the Office Construction Industry was, as in this study, BART's effect on location decisions. In the office construction study, however, the focus was on the developer's decision, while in this study it was on the employer. In several instances, however, the developer and the employer were the same person. Therefore, if a developer was constructing a building for his own firm's occupancy, the interview not only applied to the office construction study but to this study as well. Interviews from the office construction study which were used in this study are listed in **Appendix D**.

A survey of inter-firm travel which was originally proposed was not included in this study. The survey's purpose was to identify for further analysis those types of firms for which inter-firm travel was particularly important. Two findings from the BART Impact Program, however, substantially reduced the survey's importance. First, the Economics and Finance Project's Impact of BART Transportation Service on Bay Area Employment and Commerce identified prototypical firms offering the greatest potential for inter-firm travel: a central administrative office, a savings and loan, a health care facility, and a public administrative office.¹ The study found, however, that BART has not affected the operation efficiencies of these or any other Bay Area businesses.² Firms with inter-firm travel potential were further scrutinized in this study, and our own interviews confirmed that BART was accommodating little inter-firm travel. Therefore, a special inter-firm travel survey was deemed to be an inadvisable use of the limited resources available to this project.

C. LIMITATIONS OF THE ANALYSIS

The primary limitation of the key informant interview technique is its inherent subjectivity. Not only does it necessarily rely on the informants' perceptions of BART's influence on decisions, it also relies on interviewers' ability to probe and understand the informants' responses. The technique is also limited by the informants' ability and willingness to communicate his or her perceptions to

1. McDonald & Grefe, Inc., The Impacts of BART Transportation Service on Bay Area Employment and Commerce (Berkeley: BART Impact Program Economics and Finance Project Technical Memorandum, March 1977), pp. 82, 95, 112, and 119.
2. Ibid., pp. 65, 90.

the interviews. The initial promotion of BART before the referendum in November, 1962, together with BART's subsequent public relations efforts, may have generated many preconceptions about the system's effects. Because some informants' conceptions of BART may continue to be influenced by these early popular opinions rather than by the actualities of BART's operation, we exercised great caution before accepting responses to our questions about BART's effect on location decisions which were grandiose and unsupported by specific facts.

We found that informants were often unable to articulate the relative importance of the many factors which enter into a location decision. Many informants can list the most important factors in their decision but cannot rank them. Therefore, our conclusions are sometimes limited to whether BART was included among the most important considerations.

3. FINDINGS - BART'S EFFECT ON EMPLOYERS' LOCATION DECISIONS

The employment pattern within the three-county BART region has shifted substantially over the past twenty-five years. San Francisco's proportion of all jobs in the three-county area has dropped from nearly two-thirds in 1948 to about one-half in 1975.³ San Francisco's share of the region's manufacturing jobs declined even more drastically during the same period, from 48 percent to 29 percent, and San Francisco was the only county of the three experiencing an absolute decrease in the number of manufacturing jobs. San Francisco also lost absolute numbers of employment in the wholesale and retail sectors. Employment in both San Francisco's service sector and its finance, insurance and real estate (F.I.R.E.) sector more than doubled during the 1948-1975 period, although San Francisco's regional share of employment in these sectors declined from 70 percent to 61 percent.⁴ Employment in the service and F.I.R.E. sectors comprised 22 percent of San Francisco's total employment in 1948, while by 1975 these sectors accounted for 42 percent of the City's total. It is clear from these figures that employment in San Francisco is shifting from a blue collar and sales orientation to office employment orientation.

The reasons for the shift are probably much the same as in other urban areas. San Francisco developed earlier than did the outlying areas and is more densely populated. Consequently, land prices are higher in San Francisco than in Alameda and Contra Costa Counties, and San Francisco offers much less room for plant and warehouse expansion. For the manufacturing and trade sectors requiring good freeway access, the outlying areas offer much less congested traffic conditions.

On the other hand, San Francisco retains attributes that attract office firms. Its name is familiar world-wide and adds a measure of prestige to a firm's address. Firms for which proximity to other firms is important can find no larger aggregation of businesses in the Bay Area than in downtown San Francisco. Furthermore, San Francisco is the focus of most public transportation systems in the Bay Area; no other city is served by so many transit systems.

At most, BART can influence the relative importance of the location factors considered by an employer. BART extends a firm's accessibility both to its workforce and to other businesses. In doing so, BART expands the range of locations that an employer can consider. An employer wishing to locate in the suburbs

3. All employment data are from U.S. Department of Commerce, "County Business Patterns—Part II. State Reports; No. 4. California—1st Quarter, 1948" (Washington, D.C.: U.S. Government Printing Office, 1949), Table 3; and _____, "County Business Patterns, 1975—California" (Washington, D.C.: U.S. Government Printing Office, 1977), Table 2.
4. When employment in the rapidly growing Santa Clara County (not served by BART) is included in regional employment totals, San Francisco's share of regional employment in the service and F.I.R.E. sectors dropped from 66 percent in 1948 to 47 percent in 1975.

to be near his home or near his labor force, for example, may now be able to do so because BART provides a convenient link to frequently visited businesses in the central cities. On the other hand, an employer wanting to locate in the central city might have hesitated before BART's development because of anticipated increasing traffic congestion, but with the BART system he feels the location is justified. BART's opposing influences on decentralization and centralization are examined in the following sections of this study.

HYPOTHESIS 1: **Decisions to locate business firms, government agencies, and other institutions were influenced by BART's expected or perceived improved service and accessibility to labor force, clientele, and other organizations.**

For the purpose of discussing this hypothesis we will examine two types of firms: those for which access to the labor force is an important factor in deciding where to locate, and those for which access to other firms is an important locational criterion. In some cases both considerations are important to a firm's location decision, but typically one factor predominates.

In this and subsequent discussions we have drawn upon 71 interviews with developers, real estate personnel, public officials, and representatives of selected firms. (See Appendices A, C and D.) A total of 50 different employers were interviewed. Twenty-one of the firms had moved to their present locations since 1965, and five are currently in the process of moving. While this sample obviously does not represent all the firms which might have been influenced by BART, we attempted to contact most of the firms which had moved toward or away from BART stations. Therefore, the impacts we report probably do not include all affected firms but do very likely include most of them.

Access to Labor Force. Even among the 13 firms which considered access to the labor force an important siting criterion, it typically did not rank very highly on the firm's list of priorities in choosing a new location. The labor force for most firms is available throughout the Bay Area, so wherever a firm locates an ample labor supply is usually assured. Therefore, firms normally select a location for reasons other than access to their labor force. Interviews indicated that the most prominent criteria in site selection were the availability of a large enough site, access to transportation in general, and for retail enterprises, access to customers. Costs and the "image" or "aesthetics" of a site were also mentioned as important considerations in choosing a new location. Only one employer cited access to the labor force as the primary consideration. This does not imply that good access to the labor force is not necessary. Employers believe that the requisite degree of access, however, is found in the central business districts because of adequate public transit (even without BART), as well as in the suburbs near the freeways. In sum, BART has generally not had a very significant effect on the location decisions of firms considering labor force access in their decisions. In a few specific instances, however, access to the labor force has been an issue of overriding importance. We identified three situations (embracing nine of the fifty employers interviewed) in which access to the labor force was important enough that BART could have influenced a location decision.

First, one such situation is when a firm had in mind a particular type of labor supply and wanted to locate near that supply in order to attract employees. Firms in this category preferred to locate very near their labor supply and did not rely on BART or other transit to provide good access to the workforce. We found two firms in this category. The first is Standard Oil of California, which moved its Accounting and Data Processing Departments to Concord. (C-16, D-5)⁵ BART, however, played no role in this decision: in order to gain access to the labor pool, Standard Oil moved its office near to the supply and did not rely on BART to provide access to it. Another firm which moved in order to gain access to a particular labor force is Urban Property Analysis, which moved to downtown Berkeley in order to take advantage of the labor force available at the University of California's graduate schools. Again, BART was not regarded as a means of obtaining access to the labor force. (C-7)

Second, another situation in which access to the labor force became an important consideration occurred when a firm was considering relocating and wanted to minimize the move's disruption on its existing labor force. In that case a firm often looked at transit arrangements to insure that the new site would not greatly inconvenience its employees. Four firms were identified which fit this description. Levi Strauss Corporation, in the course of analyzing its possible relocation away from BART to San Francisco's northern waterfront, surveyed its employees to determine their modes of commuting. Finding that as many as 30 percent rode BART, they have since negotiated with San Francisco's Municipal Railway (the Muni) to ensure that adequate bus service would be provided between BART and the new location. Levi Strauss is therefore recognizing its employees' established commute patterns and relying on public transit to help accommodate the location change. (D-1)

Another example of an organization relying on public transit as a means of minimizing the disruption of a move is the Social Security Administration's move from San Francisco to Richmond. About 40 percent of the Social Security Administration's 1,850 employees live in San Francisco, and it was expected that trans-Bay BART service would accommodate the San Francisco residents while shortening the travel distance of the remaining East Bay workers, resulting in an overall improvement in worker accessibility.⁶ Had BART not been built, the Social Security Administration would probably not have been so sanguine about their employees' ease of adjustment, and they almost definitely would have located elsewhere. (D-3)

When deciding to move, Safeway Stores, Inc. was concerned about access to its employees. Safeway had administrative, service, and supply offices scattered over six different areas in Oakland and in San Jose, and decided to consolidate them. Finding a suitable site that was large enough was their primary location criterion, but the fact that their executives lived in Walnut Creek and nearby Orinda was an important inducement to locating in Walnut Creek. Access to BART was also considered but was "not an overwhelming factor." In order to

5. Letter-number combinations in parenthesis refer to the Appendix and informant numbers, respectively, of the person who provided the preceding information.

6. McDonald & Grefe, Inc., op. cit., p. 170.

provide better access to employees commuting by BART, Safeway operates company-owned station wagons between its offices and the BART station. BART ridership among Safeway employees is minimal (varying from 12 percent in November, 1977 to 5 percent in January, 1978). It appears that BART's primary significance to Safeway has been to ease employees through a transition period, and that if BART had not been built it would have made little difference to Safeway's decision to move. (A-15)

A final example of a firm which considered access to its employees in deciding where to locate is Blue Cross. Before deciding to remain in Oakland, Blue Cross considered moving to Dublin, in the suburbs. They rejected the Dublin location because it was so poorly served by public transportation that the move would have been a great inconvenience to its employees. If BART had extended as far as Dublin, Blue Cross might have chosen that location instead of downtown Oakland. (D-2)

Third, the final situation we found in which firms sought good access to their labor force was where employees relied on public transit to such a great extent that the firm decided to consider access to public transit as a location criterion. Two of the three examples of this situation were government entities. For the California Department of General Services (the office responsible for siting new state office buildings), access to employees and to clientele, and transportation facilities are all factors "possibly important enough to sway a location decision." The agency considers accessibility by bus and by BART both more important factors than accessibility by auto. If San Francisco did not offer such good public transportation (of which BART is only a part) BART would affect the choice of location within San Francisco.

The second public agency influenced by BART is the Energy Resources Development Administration (ERDA). The proximity of BART and other public transportation in downtown Oakland was a "key factor" in the decision to locate there. ERDA was especially eager to locate near public transportation in order to accommodate their minority employees. If BART had not been built, ERDA would still have located in Alameda County, but perhaps not in Oakland. Without BART, however, downtown Oakland's otherwise good public transit might have still attracted ERDA, so they are uncertain as to BART's marginal effect on their decision. (C-28)

Clorox is the last example of a firm whose location decision was significantly affected by BART. BART's influence on Clorox's decision to remain in downtown Oakland was twofold. First, Clorox was very interested in accommodating employee use of public transportation. About 80 percent of Clorox's employees now use public transit, one-half of whom ride BART. Second, Clorox was searching for a prestigious location for its new corporate headquarters and would have left Oakland had the Oakland City Center Project not been built. The City Center Project is a redevelopment project for which BART construction funds qualified as the local contribution to federal matching funds. Without BART it is unlikely that the City Center Project would have proceeded in the same form as it has. Therefore, BART has doubly encouraged Clorox to locate their new quarters in downtown Oakland. Had BART not been constructed, it is fairly certain that Clorox would have left Oakland. (C-26)

For the other forty-one firms interviewed, access to the labor force was not a primary consideration in their location decision. BART, therefore, was not important

as a means of providing access to the labor force, and had BART not been built it would not have affected their decisions at all. Some firms did mention that they viewed BART as a "plus," but not as an important decision variable. As long as BART was available they would use it, and they found it a "convenience."

Overall, employee use of BART appears to be fairly high in the firms interviewed. On the average over 20 percent of the employees were thought to be BART riders, according to the 24 informants who felt they could estimate employee use of the system. Four firms estimated that half their employees used BART (A-18, A-26, A-28, A-30). Only two informants had noticed a decrease in ridership among employees during the last year, while five thought that ridership had increased, and six that it had remained the same.

BART's effect on location decisions does not appear to differ according to the size of firm. The only size difference found was that employees of large firms with several shifts were precluded from using BART because some shifts begin or end during the hours when BART has stopped running. This is the case at the General Motors plant in Fremont, the Standard Oil of California refinery in Richmond, and a large retail distribution center in Richmond.

BART's effect on location decisions does seem to differ for government entities as opposed to private firms. Three of five government entities contacted said that BART did have an important effect on their location choice (ERDA, Social Security Administration, and California Department of General Services). On the other hand, only a small proportion of the private firms contacted acknowledged a BART effect. The reason may be that private firms must respond to market forces and that they do not yet perceive BART as a market factor, while government agencies are freer to set public policies rather than having to follow established patterns, so that the agencies can locate near BART to encourage use of public transit. Government agencies (on federal, state and local levels) employ 7 percent of the Bay Area's workers.⁷

Among the firms interviewed for this study there was little special interest in BART as a means of transportation for minority employees. The only firm which specifically located near BART in order to provide better transportation for its minority employees was ERDA. Moreover, only three of the fourteen firms answering the question reported that they had observed an increase in the proportion of job applicants who were minorities or from the inner cities. Also, only 27.3 percent of BART riders are minorities, while 30.4 percent of the BART service area population are minorities.⁸ We must conclude that BART is not having a significantly greater effect on minority employees than on employees in general.

Access to Other Firms. Many organizations require enough contact with other firms that accessibility to these firms was an important aspect of their location

7. U.S. Department of Commerce, Bureau of the Census, 1970 Census of Population—Vol. 1. Characteristics of the Population, Part 6. California, Section 2 (Washington, D.C.: U.S. Government Printing Office, 1973), Table 184.
8. Miriam Hawley, Metropolitan Transportation Commission, memorandum to Emilio Escudero, 20 April 1978.

choice. Banks and savings and loans are illustrative: in any commercial area their primary customers are the nearby firms and employees of these firms. Organizations with several offices scattered around the Bay Area also considered accessibility to their other offices in choosing their new office locations. Examples include Standard Oil of California, with offices in San Francisco, Richmond, and Concord, and California state offices, with buildings in many Bay Area communities.

For the ten firms which explicitly considered accessibility to other businesses important, however, BART was generally not an important factor in their location decision. The more highly a firm valued access to other businesses, the closer it would locate to them. So the firms for which access was critically important (e.g., banks) located within walking distance to the businesses of interest. The firms generating frequent travel to and from other businesses did not locate far enough away from these other businesses for BART to aid in that travel. Only the firms which did not generate or receive such frequent trips to or from other businesses could afford to locate far enough away from these other businesses that BART could serve as a means of transportation. Therefore, BART's contribution to inter-firm travel at any particular firm has been inversely related to the importance of inter-firm travel at that firm.

BART's relative unimportance in inter-firm travel is confirmed by the key informant interviews. Informants from the firms with the most frequent traffic to and from other businesses (banks and savings and loans) deny that BART has any direct locational significance to them. (A-6, A-18, C-17, C-3, D-6, and D-4) Firms do use BART sometimes for inter-firm and inter-branch travel, especially between San Francisco and the East Bay (C-5, C-6, C-9, C-11, C-16, C-17, C-20, C-21, C-25, C-26, C-28, C-30, and A-35), and sometimes between Sacramento and San Francisco (driving to Richmond or Concord and taking BART on into San Francisco to break up the trip and to avoid congested downtown traffic). (A-21, C-11) But it is clear that firms feel at present that BART is simply a convenience and not an important means of inter-firm travel. Reasons offered for BART's insignificance include: BART's unreliability, the necessity of transferring at MacArthur Station when traveling between San Francisco and cities north of Oakland, poor airport connections, and the fact that during the non-rush hours when many inter-firm trips are made, roadway congestion is light and private autos are very convenient. But the most important reason remains the fact that most inter-firm travel is between nearby firms and is done on foot.

HYPOTHESIS 2: **The location decision-makers recognized that BART might induce households and other organizations to relocate and anticipated the pattern of such relocation in selecting their own establishment locations.**

Firms might be drawn to emerging centers of new household and business activity for two principal reasons related to this hypothesis: to gain access to an expanding workforce, or to gain access to the economic activity associated with the new households and businesses. As we concluded in the discussion of Hypothesis 1, access to the labor force has not usually been a very important factor in firms' location decisions, so it is unrealistic to expect to find firms which have moved into new areas in anticipation of a BART-induced increase in the labor supply. In fact, firms which locate to improve their access to the

labor force usually choose a site near a freeway interchange or near transit stations; few firms actually move to the suburbs in order to locate near their labor supply. Labor is so mobile that firms can locate where they wish for other reasons and still attract an adequate labor supply. The Standard Oil of California Accounting and Data Processing Departments provide a single exception. They moved to Concord to be near their intended labor supply, but their move and their evaluation of the Concord area were unaffected by BART. In no interviews did a firm report that they were influenced in their location choice by an anticipated BART increase in the labor force in the area in which they located.

Neither have firms located in BART-served areas in order to gain access to economic activity associated with BART-attracted households and businesses. Banks and savings and loans offer good evidence of this fact. In deciding where to locate new branches, banks and savings and loans follow and to some extent anticipate growth in household and business activity. Because all banks and all savings and loans are regulated, they cannot use prices to compete in their respective industries. Therefore, one important means for banks and savings and loans to compete is by positioning their branches in locations which are most convenient to prospective customers. Hence, the location of new branches is critically important in the banking and savings and loan industries, and one would expect companies in these industries to devote considerable resources to the selection of new locations. In fact, the larger banks and savings and loans do carefully research prospective locations. Examining the locations of new branches, therefore, should indicate how these financial institutions expect an area to grow, and in particular, how they expect BART to affect the growth in these areas. Banks and savings and loans are extremely aware of the possibility that BART could accelerate an area's growth rate and enhance that area's attractiveness as a location for a new branch. None of the eight banks or savings and loans interviewed for this study, however, has located a new branch near a BART station in anticipation of station area growth caused by BART. Moreover, the banks and savings and loans interviewed have not yet seen evidence of such BART-induced growth.⁹ Therefore, it appears that to date no indirect BART effects are taking place.

HYPOTHESIS 3: BART influenced firms specializing in non-consumer goods and services to locate away from (in) central business districts.

Opposing influences attract firms both to the central cities and to the suburbs. The prestige of a well-known city name, proximity to other firms and to an established transportation network are all factors which attract firms to the central cities. On the other hand, inexpensive land, large parcels, proximity to the labor force, and other amenities pull firms away from the cities. In the Bay Area most office firms are attracted to central city locations, while manufacturers are drawn to the suburbs in search of cheaper land.

9. Nor has the BART Impact Program found BART to be a major stimulus to particular suburban areas. John Blayney Associates/David M. Dornbusch and Company, Inc., Study of Households' Location Decisions (Berkeley: BART Impact Program Land Use and Urban Development Project Working Paper, February 1978).

To date BART has not been an important location factor for many firms, and hence is not contributing either to centralization or decentralization. Of the five organizations interviewed for this study that were moving to a different city, only one, the Social Security Administration (SSA) was strongly influenced by BART in its decision to move. The SSA was concerned about access to its new location for its workforce residing in San Francisco. The SSA informants claimed that the offices would not have been located at the Richmond site had BART not been built, but would not say where they would otherwise have located. (D-3, C-29)

Three other firms were interviewed which had moved from central city locations to the suburbs: Safeway, Standard Oil of California (Accounting and Data Processing Department), and a large transportation company. All relocated to be near suburban amenities or to find a site inexpensive or large enough, or appropriately zoned. None moved because BART provided good access to the central cities, but one, Safeway, mentioned that BART was a minor factor in their choice of a location. It is apparent that BART has not contributed to an exodus of firms from the central cities. (A-15)

One firm interviewed, Shaklee Corporation, had just announced that it was consolidating offices and moving from several East Bay locations to downtown San Francisco. Again, the reasons were not related to BART. Shaklee is moving primarily to be near the financial district, to find a large enough site to expand their quarters in the future, and to gain a more prestigious address. Access to adequate parking and to transportation facilities in general were less important considerations also favoring the San Francisco location. (A-22)

A subtler effect than inducing firms to leave one city for another is BART's encouraging central city firms to remain in the central cities. We found four examples of organizations which were tempted to relocate outside the central cities but which stayed at least partially because of BART. Two examples, the California Department of General Services and Blue Cross, reported that were it not for BART and other good public transit they might have decided not to locate offices in San Francisco and Oakland, respectively. In two other examples, Clorox Corporation and ERDA, the firms decided to locate in Oakland's new City Center Project but would very likely have left Oakland had BART not been constructed. (Clorox definitely would have left Oakland.) (C-26)

BART, then, seems to be forestalling decentralization to some extent, and seems to have been especially important in Oakland, where three organizations might have left had BART not been built.

HYPOTHESIS 4: Business firms were attracted to the areas near BART's surface and elevated tracks because of exposure to the traveling public.

We found no cases of a non-consumer oriented firm locating near the BART line or positioning its building or signs so as to gain exposure to BART riders. We did find three consumer-oriented firms which sought to gain increased exposure by responding to BART. In two cases retail firms had placed signs on tall structures next to their buildings which were specifically oriented towards BART riders. Montgomery Ward's store and sign, in San Leandro's Bay Fair Shopping

Center, were designed for maximum visibility from the adjacent BART tracks, although its location in the shopping center was not dependent upon BART. Crocker National Bank placed branches near BART in the Bay Fair Shopping Center and in Oakland's Fruitvale district. Both branches have signs facing BART which were designed for exposure to BART riders, but again, the branches were located for reasons other than BART. See **Figure 1.** (A-11 and A-6)

A third store, Cost Plus in Walnut Creek, was specifically located on the site facing Walnut Creek's BART Station in order to maximize visibility from BART. Had BART not been built, however, it is likely that the store would have still been located in its present site. See **Figure 2.** (A-4)

In general, firms do not appear to be very interested in locating near BART to take advantage of the exposure it provides. Rather, firms which located near BART for other reasons sometimes exploit their proximity to BART with signs facing the tracks.

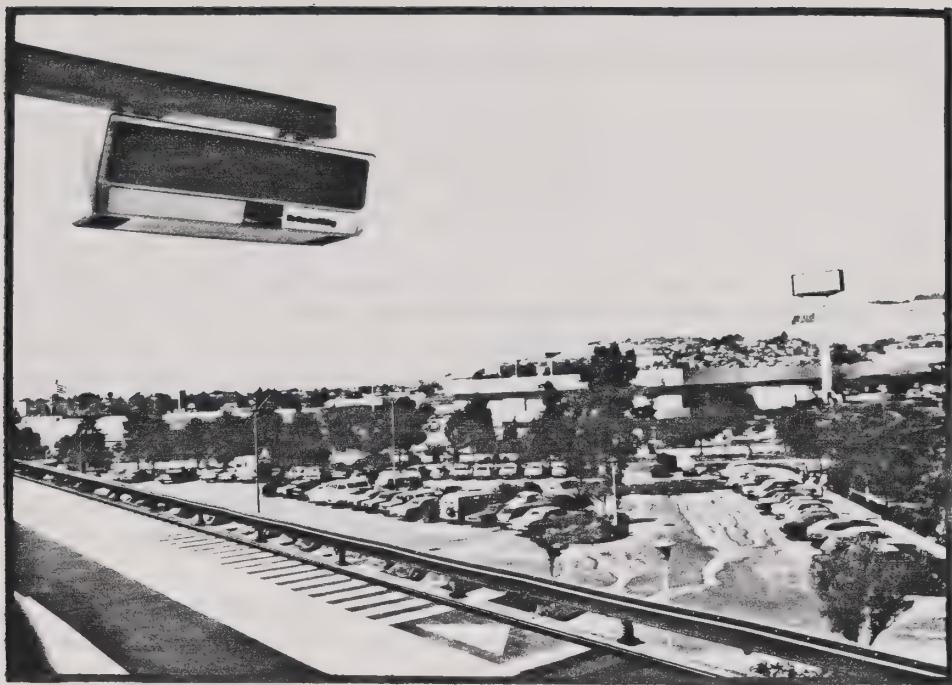


Fig. 1. Montgomery Ward and Crocker National Bank branch in Bay Fair Shopping Center, San Leandro, as seen from the Bay Fair BART Station.



Fig. 2. Cost Plus Imports as seen from the Walnut Creek BART Station.

4. EXPECTATIONS AND IMPLICATIONS FOR OTHER CITIES

Firms in San Francisco generally do not rank access to labor force very highly among their location decision criteria. The limited importance may be due to the Bay Area's excellent regional highway system and commuter transit systems (bus, conventional rail, and ferry, as well as BART). However, the expected increase in congestion on major highways and especially on the Bay Bridge (linking San Francisco with the BART-served counties of Alameda and Contra Costa); restrictions on the supply of parking space in the face of growing demand; and possible large increases in gasoline prices, gasoline rationing, or both, would increase the importance of public transit accessibility as a factor in location decisions, and would improve BART's attractiveness relative to cars and busses. As more commute traffic is directed along the BART line, the BART station areas will become more important for commuters and therefore more significant locations for firms desiring public transit access to their workforce.

As traffic congestion and other impediments to commuting worsen, BART may have an increasingly important effect on centralization. Without BART, congestion in the central cities might increase to the point that many firms would be tempted to leave in order to improve access to their workforce. Although BART alone will probably not stimulate many firms to move to the central cities, BART may prolong the life of the central cities as attractive locations for the firms already there.

It is also expected that BART's indirect effects on firm location decisions may increase in the future. Directors of banks and savings and loans, especially, are waiting to see if BART will attract households and businesses to the BART-served suburban areas, and would themselves locate in these areas if they thought that BART was having a significant effect. Therefore, if businesses begin to perceive that BART is significantly influencing development patterns in the Bay Area, they will respond.

Firms which value access to other firms have not used BART as a principal means of inter-firm travel. In fact, firms which value such access most highly generally locate within walking distance of the other firms. Only for their occasional trips to distant firms do employees use BART. This occasional use would increase as BART becomes more reliable, but few firms will locate near BART in order to use it for inter-firm travel.

It is also doubtful that visual exposure to passengers will draw firms to the BART line. Retail and service firms locating near BART for other reasons will sometimes take advantage of their proximity to BART by orienting their buildings or signs towards the BART line, but few if any firms will locate near BART specifically to gain visibility.

In other cities, the greater the improvement in accessibility that a new transit system provides, the greater the effect that can be expected on location decisions. As was found to be true in this study, however, a transit system is rarely high on an employer's list of location criteria. Therefore, even if the accessibility improvement from a transit system is substantial, the land-use impacts may still not be great.

In any event, other cities should not expect a new transit system to have much impact on the location decisions of firms valuing access to other businesses and firms desiring increased exposure to the public. This study found that access to other businesses was sometimes so important that a firm would not locate outside of walking distance from those other businesses. Visibility was not found to be a factor important enough to draw a firm to BART, only an added feature of BART locations which a few firms might exploit if they were locating near BART for other reasons.

Unless other cities offer conditions more conducive to development focused around major public projects, they should not anticipate a rapid response to a new transit system. BART has now been operating for five years without causing significant changes in business locations. This study found indications that some such changes may occur in the future, but the changes in the Bay Area at least will be slow to occur.

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PARTICIPATING FIRMS

DAVID M. DORNBUSCH & COMPANY, INC.

David M. Dornbusch, Technical Director
James P. Merchant
Victoria Gussman
Caj O. Falcke
Jane Ohlert

JOHN BLAYNEY ASSOCIATES

Michael V. Dyett, Project Manager

HUMAN RESOURCES CORPORATION

Masato Inaba
Louise Stutsman
Robert Pitts

APPENDIX A. KEY INFORMANTS INTERVIEWED FOR THIS STUDY

1. Mr. Bernard Averbuch - Market Street Development Project - San Francisco
2. Mr. Martin Vitz - San Leandro Planning Department - San Leandro
3. Mr. Ben Farnham - Emporium - San Francisco
4. Mr. Robert Mann - Cost Plus - Walnut Creek
5. Mr. Futak - Montgomery Ward & Co. - Bay Fair Shopping Center
6. Mr. Harry Rhorer - Crocker National Bank - San Francisco, Oakland, Bay Fair
7. Representative - Furniture Store - Hayward
8. Mr. Bruce Winnie - RB Furniture - El Cerrito
9. Mr. Dick Craft - Bullock's - Walnut Creek, San Francisco, Oakland
10. Representative - Furniture Store - Hayward
11. Mr. Bud Young - Montgomery Ward & Co. - Fremont, Bay Fair Shopping Center
12. Representative - Major Corporate Headquarters - San Francisco
13. Representative - Major Transportation Firm - Oakland, Walnut Creek
14. Representative - Department Store - Berkeley
15. Mr. Gary Ward - Safeway Administrative Offices - Walnut Creek
16. Messrs. Loren Simpson and James Killoran - Pacific Telephone - Oakland, San Francisco
17. Mr. Molter - U.S. Postal Service - Oakland
18. Representatives - Large Savings and Loan - Bay Area
19. Mr. William LeFevre - Woolworth's - San Francisco
20. Mr. Thomas Bjorndal - West Coast Life Insurance Company - San Francisco
21. Mr. Loren Smith - California Department of General Services - San Francisco
22. Mr. Brouse - Shaklee Corporation - San Francisco, Emeryville
23. Representative - Department Store - Oakland

24. Representative - Major Retail Distribution Center - Richmond
25. Mr. Larry Rich - Standard Oil of California - Richmond
26. Representative - Life Insurance Company - Oakland
27. Representative - Department Store - Oakland
28. Representative - Clothing Store - Oakland
29. Mr. William Teismann - Koret of California - Mission District
30. Mrs. Josephine Tashjian - Si Tashjian Flowers & Gifts - Mission District
31. Mr. Clarke Stone - Macy's - San Francisco, Richmond
32. Mr. Matt Vasquez - Matt Vasquez Optical - Mission District
33. Representative - Furniture Store - Mission District
34. Representative - Major Clothing Store - Oakland
35. Mr. W. Carl Brune, Jr. - Pacific Gas & Electric - San Francisco, Oakland

**APPENDIX B. QUESTIONS ASKED KEY INFORMANTS INTERVIEWED
FOR THIS WORK ELEMENT**

I. TYPE OF ORGANIZATION?

**II. IF THERE IS A CLIENTELE WHICH COMES TO THE PLACE OF BUSINESS,
HOW WOULD YOU CHARACTERIZE THE CLIENTELE?**

1. Age Groups:
2. Sex:
3. Racial/ethnic identity:
4. Income level:
5. Area of residence (local, city-wide, Bay Area):

III. BUSINESS DAYS AND HOURS:

IV. PLACE OF BUSINESS:

1. When was it decided to move into present location?
2. When did construction or remodeling begin on this location?
3. When was it opened for business (year)?
4. Where was your previous location?
5. Why did you leave your previous location?

V. DECIDING ON LOCATION IN THIS CITY:

(Do not read. Check on basis of reply.)

1. What factors were considered in deciding to locate at this site?	2. How important was this factor? ¹⁰
a. Already here _____	_____
<hr/>	
10. (1) Not important enough to sway a decision by itself. (2) Possibly important enough to sway a decision. (3) Definitely important enough to sway a decision.	

b. Labor supply	_____	_____
c. Site availability	_____	_____
d. Room for expansion	_____	_____
e. Land prices	_____	_____
f. Access to suppliers	_____	_____
g. Access to customers	_____	_____
h. Access to employees	_____	_____
i. Taxes	_____	_____
j. Amenities (parks, views, etc.)	_____	_____
k. Transportation facilities	_____	_____
l. Political/social environment	_____	_____
m. Other	_____	_____
n. Other	_____	_____
3. Was accessibility of transportation a factor?	4. How important was this factor? ¹¹	
a. Accessibility by auto	_____	_____
b. Accessibility by bus	_____	_____
c. Accessibility by BART	_____	_____
d. Accessibility by rail	_____	_____

VII. VISIBILITY OF FIRM FROM BART LINE:

1. Can/could BART riders see your firm from the BART line?
2. Was it intended that the firm should be visible?
3. How valuable do you consider visibility to be?

VIII. IF IN BUSINESS NEAR BART DURING BART CONSTRUCTION PERIOD:

11. (1) Not important enough to sway a decision by itself.
- (2) Possibly important enough to sway a decision.
- (3) Definitely important enough to sway a decision.

1. What effect did BART construction have on your operation?
Negative effects, such as poorer access, noise, traffic, rerouting, etc.?
Positive effects, such as traffic rerouting, etc.?
2. Were there changes in the business days or hours because of construction? What changes?
3. Were there changes in staffing? Numbers? Type? Turnover?
4. What other types of changes in procedures were there?

IX. IF BART HAD NOT BEEN BUILT?

1. Where would the business have been located? For what reasons?

X. EMPLOYEES:

1. What proportion of your employees use BART?
2. Do more or fewer employees use now than a year ago?
3. Are newer employees more likely to use BART now than a year ago?
4. Has BART affected your ability to hire and/or keep employees? How?
5. Because of BART are you getting more applicants for jobs from minorities? From inner city residents?
6. Are the same persons applying now as before the time that BART was in operation?
7. Does/did the firm provide more or fewer parking spaces when located within walking distance of BART?
8. If large firm: Do you provide a shuttle bus between BART and firm?
9. How extensively do your employees use BART for business travel?
10. Would you say that BART has significantly increased your efficiency in making trips to other firms?

XI. OTHER PERSONS TO BE INTERVIEWED:

1. Do you know others we could talk with about speculation about land and rent increases due to BART? May I have their names?

THANK YOU FOR TAKING THE TIME TO TALK WITH US.
Would you be willing for us to attribute to you things which you have said?

APPENDIX C. KEY INFORMANTS INTERVIEWED - ECONOMICS AND FINANCE PROJECT

1. Mr. Burton Bangsberg, Assistant Director - Oakland Office of Community Development, Oakland City Center
2. Mr. Edward Phillips, Director - Concord Planning Department
3. Mr. Barry Rubens, Manager of Technical Analysis and Site Selection - Great Western Savings
4. Mr. Irving Reichart, General Counsel - San Francisco Bar Association
5. Mr. Richard Thomas, Principal Consultant - On-Line Decisions - Berkeley
6. Mr. Robert Williams, Principal - Economics Sciences Corporation - Berkeley
7. Mr. Richard Bets, President - Urban Property Analysis - Berkeley
8. Mr. Frederick Bold, Jr., Attorney - Bold & Polisner - Walnut Creek
9. Mr. Joseph Landisman, Attorney - Landisman, Coburn, Martin & Wayne - Berkeley
10. Mr. Thomas V. Roland, Attorney - Berkeley
11. Mr. Howard Hagan - Kaiser Properties Incorporated - Oakland
12. Mr. Robert Sprowl, President - San Francisco Bar Association - San Francisco
13. Mr. Dale Odell, Project Director - Oakland City Center Project
14. Mr. Lyman Jee, President - Arcon Pacific Corporation - San Francisco
15. Mr. Charles Bono - Briggs, Andrew & Pope, Property Managers - Berkeley
16. Mr. Arval Wade, Manager of Employee Relations - Standard Oil Credit Office - Concord
17. Mr. Robert Simon, Vice-President - California Savings and Loan Association - San Francisco
18. Mr. Robert Wilmouth, Vice-President, Branch Locations - Crocker National Bank - San Francisco
19. Mr. Edward Montes, Vice-President - Pan American Federal Savings and Loan Association - San Francisco
20. Mr. John Hill, Branch Manager - Great Western Savings - Berkeley

21. Mr. Joseph Shakespear, General Manager, Casualty Division - Aetna Life and Casualty Insurance Company - San Francisco
22. Mr. Robert Martin, Plant Manager - American Cryogenics - Union City
23. Mr. Dennis Flack, Employee Relations - Diablo Systems Incorporated - Hayward
24. Mr. Kenneth Brooks, Plant Manager - General Motors Company - Fremont
25. Mr. Hollis Bascomb, Owner/Plant Manager - Arcon Pacific Corporation - Hayward
26. Mr. William Weir, Manager of Office Operations - Clorox Corporation - Oakland
27. Mr. George Bruns, President - Systron & Donnor - Concord
28. Mr. Tony Vergari, Assistant Director, Department of Energy - Resources and Development Administration - Oakland
29. Mr. Charles Coleman, Director of Western Program Services - Social Security Administration - Richmond
30. Mr. Donald Jones, Special Agent - Federal Bureau of Investigation - Berkeley

**APPENDIX D. KEY INFORMANTS INTERVIEWED - STUDY OF THE
OFFICE CONSTRUCTION INDUSTRY**

1. Mr. Gerson Bakar - Gerson Bakar & Associates - San Francisco
2. Mr. Edward Zwolenkiewiez - Blue Cross - Oakland
3. Mr. Kirby - U.S. General Services Administration - Richmond
4. Representative - Major Bank - San Francisco
5. Mr. Francis Sitek - Standard Oil of California - Concord
6. Representative - Major Bank - San Francisco

U.C. BERKELEY LIBRARIES



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